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ABSTRACT

A study examined the distinctive communication phenomena which occur on computer bulletin boards, focusing on the Usenet bulletin board system which is estimated to have over half a million readers worldwide. Most universities and research organizations, all over the world, are capable of exchanging information over computer networks through the electronic mail system. Different Usenet groups have distinctive emerging norms and conventions and their own distinctive styles. Perhaps the most striking communication phenomenon on the Usenet is the frequent occurrence of extreme verbal uninhibition (aggression and self-disclosure). Results of a content analysis of 600 articles indicated a high frequency of "face threatening acts," and suggested that reduced inclination to protect others' "face," low perceived sanction, and the self-perpetuation of existing (uninhibited) interaction patterns, may be responsible for this phenomenon. These communication phenomena pose interesting topics for future empirical study, such as the prevalence and severity of verbal aggression across different forms of computer-mediated communication. (One table of data is included; 17 references and an appendix are attached.) (PRA)

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Verbal Aggression and Self-Disclosure on Computer Bulletin Boards

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ABSTRACT

In this paper, we examine the distinctive communication phenomena which occur on computer bulletin boards. In particular, we focus on Usenet, perhaps the world's largest and most widely used bulletin board system. First, we describe the Usenet system, and list its interesting communication-related characteristics. The frequent occurrence of extreme verbal uninhibition (i.e., aggression and self-disclosure) is noted, and examples are provided. Results of a content analysis are reported to quantify the frequency of FTAs ("Face Threatening Acts"). We speculate as to the reasons for these unique and striking communication patterns, and propose an explanation based on the following three factors: reduced inclination to protect others' "face", low perceived sanction, and the self-perpetuation of existing (uninhibited) interaction patterns. Finally, directions for future research are explored, and the socio-psychological implications of computer interaction discussed.

1. Introduction

Cherry (1974) defined "society" as "people in communication" -- suggesting that means of communication are a major determinant of the patterns of social interactions in any society. While computer-mediated communication (CMC) is still a novelty for most people, there are already a few million engineers, scientists, and computer users for whom it is a routine and very important means of communication. One may inquire whether this new medium is associated with any distinctive communication phenomena, and if so, what they are and how they can be accounted for.

Most discussions of new communication technologies, as Kiesler et al. (1984) point out, focus on the *advantages* of computer-mediated communication: fast and precise information exchange, increased participation in problem solving, and reduction of "irrelevant" status and prestige differences (Lancaster, 1978; Linstone & Turoff, 1975; Martino, 1972). Studies of the individual user's perspective of the new medium, however, have been quite rare.

A few existing studies, which explore the new media from social and psychological perspectives, have identified verbal uninhibition (i.e., impoliteness and informality) as a distinctive characteristic of computer-mediated communication (Kiesler, Zubrow, Moses, and Geller, 1984; Sproull and Kiesler, 1984; Kiesler, Siegel, and McGuire, 1984). For example, Kiesler et al. (1984) state that the relative proportion of remarks coded as "uninhibited behavior" in computer-mediated interaction was significantly higher than that for face-to-face interaction.

The above experimental findings are limited to real time interaction, a relatively rare form of computer-mediated communication. By contrast, there exist thousands of computer bulletin board systems, local as well as international, which link millions of regular users. It is, therefore, a significant and very interesting problem to identify distinctive communication phenomena on bulletin board systems, and to attempt to explain them.

The lack of shared social conventions on the bulletin board, coupled with the fact that there is no "central authority" which actually runs or polices the network, produces an unprecedented communication relationship. Communicating from a terminal apparently tends to make the user forget that there are other *people* "out there". This quite frequently leads to levels of verbal aggression and self-disclosure which would be almost unthinkable in other types of communication among "strangers".

The purpose of this study is to examine the distinctive characteristics of communication on bulletin board systems, and to speculate on possible theoretical explanations. Specifically, this paper examines **Usenet**, perhaps the largest and most heavily used bulletin board system in the world. The remaining sections of this paper are organized as follows: Section 2 introduces the Usenet bulletin board system and lists its interesting communication-related characteristics. Section 3 describes the phenomenon of verbal uninhibition (i.e., aggression and self-disclosure) on Usenet. Section 4 speculates on the explanation and implications of this verbal uninhibition, and Section 5 concludes.

2. Computer Bulletin Board Systems

Starting in the early 1970s, computers in Universities and organizations have routinely been interconnected to permit the exchange of information between them. Today, most Universities and research organizations, particularly in the U.S.A. and Canada, but also in Western Europe, Israel, and some Asian countries, are capable of exchanging information over computer networks. This capability has been employed to provide services such as electronic mail and computer bulletin board systems. Electronic mail is now very widely used among computer and engineering professionals, and to some extent by others having access to computers.

Bulletin Board Systems (BBS) are another service made possible by computer networks. Today, in the U.S. there exist thousands of local bulletin boards, most often run from their homes by a small number of people with a common interest in some topic, such as science fiction or rock music, for example. In addition there also exist huge bulletin board or mailing list services with many thousands of participants and spanning several countries besides the U.S.A. Perhaps the biggest and most sophisticated of these is the Usenet bulletin board system. It is accessible through computers at thousands of academic and commercial organizations all over the USA, Canada, Western Europe, Israel, Australia, New Zealand, and some Asian countries. On two occasions in 1989, the Usenet proved its worth as a versatile, effective, immediate means of communication -- to such an extent that newspaper attention was attracted to the Usenet itself.

The first occasion was after the announcement that nuclear "cold fusion" had been discovered. Interested readers of Usenet almost immediately established a newsgroup called "alt.fusion". For several weeks, this was **the** prime source for the latest news, opinions, rumors, publications, seminar reports, and theoretical speculations related to cold fusion. Participants included interested non-physicists as well as Physics researchers from organizations all over North America and Europe.

The second such occasion was during the political struggle in China during May-July 1989. The already existing "soc.culture.china" newsgroup provided the latest available up-to-the-minute news and rumors, as Chinese students in the USA immediately posted information obtained by phone from China. The newsgroup was also used to identify FAX addresses in China to which information from the outside world was sent, and later, to organize signature campaigns, announce meetings and rallies, collect contributions, and coordinate political lobbying efforts in the U.S.

Certain well-established trends, norms, and communication phenomena are noticeable on the Usenet, which we will discuss in this paper.

2.1. Usenet

The Usenet bulletin board system is organized into over 440 "newsgroups" (bulletin boards for the discussion of specific subjects), ranging from sex or nude bathing on the one hand, to poetry, nuclear physics, philosophy, or supercomputers on the other. It is estimated to have over half a million readers worldwide, and generates the equivalent of about 2,000 double-spaced type-written pages of traffic every day. This service is available free of charge to most users, though some organizations also provide commercial access. Usenet has become such a heavily-used and valuable means of communication among professionals with computer access, that recently a new company even began commercially offering digests of the articles posted on Usenet.

Usenet is subdivided into a hierarchy of special-interest discussion groups, the so-called "Usenet hierarchy". At the topmost level, the division is into about 10 very broad categories like "rec" (recreational), "comp" (computer-related), "sci" (scientific), "soc" (societal discussions), "alt" (alternative newsgroups for unconventional or bizarre topics), and "news" (issues related to the Usenet itself). Each of these main categories is further divided and subdivided to arrive finally at individual newsgroups such as, for example, soc.culture.asian.american (for discussions of interest to Asian- Americans), sci.lang.japan (Japanese language and linguistics), rec.arts.tv.soaps (TV soap operas), or alt.sex.bondage.

A communication (called a "posting" or "article") on the Usenet bulletin board system has the following specific form. It begins with some "header" information such as a subject line, date and time of the posting, identity of the sender and his/her organization, the originating computer, a unique message identifier, the newsgroup or groups to which it is being posted, etc. A skilled user can circumvent or change some of this information -- to post anonymous messages, for example. Next comes the actual body of the message. Most postings on the Usenet are responses to previous postings, so this typically consists of a few lines quoted from an earlier message, followed by the sender's own comments or criticism, followed by more quoted lines and more comments, and so on. Finally, there is a signature area, which may be used for fancy signatures, a quotation or remark intended to be striking, funny or thought-provoking, or a "disclaimer". Disclaimers, which state that the contents of the posting are not an official statement of the sender's organization, are particularly common on "controversial" newsgroups such as talk.politics.mideast, talk.politics.misc, and alt.sex.

It is not even possible to precisely define which newsgroups and sites constitute the network -- the best one can do is provide a working definition: "The Usenet consists of sites exchanging articles in the newsgroup called news.groups." Currently, about 500,000 people read news in Usenet. Total volume of all the newsgroups regularly exceeds six megabytes (about 2,000 double-spaced pages) of information flow per day in over four hundred newsgroups.

2.2. Noteworthy Communication Phenomena on Usenet

Computer-mediated communication differs in many ways, both technically and culturally, from more traditional communication technologies. Technically, it has speed and efficiency, but ..ot the aural or visual feedback of telephoning and face-to-face communication (Kiesler et al., 1984). Like the "letters to the editor" section of a newspaper, a bulletin board system links a large audience in conversation, but additionally provides relative immediacy of response. However, computer-mediated interaction lacks the richness of the face-to-face experience -- the ability to communicate across multiple channels and with multiple senses.

Culturally, computer-mediated communication is still developing. Without any controlling authority on the network, different Usenet newsgroups have distinctive emerging norms and conventions and their own distinctive styles. These cultural and communication phenomena of the Usenet include:

(i) Complementation of the meager nonverbal cues:

Computer-mediated communication lacks the aural and visual social information which is provided in face-to-face communication, and which is partly provided in telephone and video conference communication (Kiesler et al, 1985, p.80). A person using computer-mediated communication is focusing his or her attention simply on a written message.

As one way of complementing the lack of non-verbal cues in electronic messages, the Usenet has developed the "smiley" as an attempt to help correctly interpret the message. Without the voice inflections and body language of personal communications, it is easy for a remark meant to be funny to be misinterpreted. As a way to substitute for the nonverbal cues, the net uses a symbol called the "smiley" face: :-) Smilies are frequently used to inflect a sarcastic or joking statement, or to indicate a good-humoured mood. Smilies may be shown in many ways, the most common being :-) Other fairly common versions are :-((to indicate unhappiness or dismay), ;-) (a winking, tongue-in-cheek smiley), and :-P (sticking your tongue out as an insult or to show disgust).

(ii) Use of jargon:

Communication on the Usenet is infused with its own special jargon. For example, "to flame" means to abuse, make offensive comments, or criticize sharply; "I've got my asbestos suit on" means go ahead and flame me, I don't care; a "net.cop" is a person who moralizes or tries to control postings on the Usenet; Usenet readers are "netters", and "netland" is the Usenet network itself. Commonly used acronyms are "FYI" (for your information), "BTW" (by the way), "IMHO" (in my humble opinion), "aka" (also known as), "RTFM" (read the

f****** manual), "UTFL" (use the f****** library), and "MOTSS" (member of the same sex). "Net" can also be used as a prefix, as in net.commie, net.liberal, net.christian, net.idiot, net.cop, and net.gods.

(iii) Emerging shared norms:

People are still trying to construct and to inculcate a shared social etiquette (the so-called "netiquette" according to the network jargon) for computer-mediated communication (Brotz, 1983). Widely shared norms on the Usenet are rather few. Perhaps the one issue which unites even bitter adversaries on the Usenet (under normal circumstances) is opposition to outside censorship of any sort. It is considered extremely bad form to retaliate against an adversary by complaining to his/her University or employer, jeopardizing his/her employment, or attempting to have his/her Usenet access revoked. "Flooding" an adversary with large amounts of junk email is frowned upon, but not unknown. Chain letters are considered extremely anti-social. It is also considered improper to post personal email sent to you.

Different newsgroup categories, and different newsgroups within categories, however, have distinctive norms and conventions and their own unique styles. For instance, newgroups in the "sci" and "comp" categories tend to be polite though informal, and oriented towards serious technical discussion or exchanging specific information. There may be some amount of humor, irony or sarcasm, but personal attacks are rare. On the other hand some newsgroups in the "soc", "alt", and "talk" categories (such as talk.politics.mideast, soc.singles, alt.sex, and of course alt.flame) have an abundance of innuendo, sarcasm, obscenities, and violent personal abuse and vilification. Incidentally, these are among the newsgroups with the largest readership and the heaviest traffic.

Even though there are no binding shared norms as yet for communication within the Usenet community, some customs and conventions that have developed over time are described in a voluntarily developed set of guidelines. For example, here are a few of the (voluntary, non-binding) "Usenet Rules" compiled by Chuq Von Rospach:

> *(a)* Never forget that the person on the other side is human: Do not attack people if you cannot persuade them with your presentation of the facts.
>
> *(b)* Think twice before you post personal information about yourself or others.
>
> *(c)* Be brief.

(d) Use descriptive titles: Use the subject line efficiently to tell others what the article is about before they read it.

(e) Be careful with humor and sarcasm.

Note that these rules reflect the fact that verbal aggression [*(a)*, *(e)*] and self-disclosure [*(b)*] are commonplace on the network, although the former is far more widespread.

3. Verbal Uninhibition on Usenet

Perhaps the most striking communication phenomenon on the Usenet is the frequency of highly uninhibited expression. This takes the form of easily provoked verbal aggression, and disclosure of very personal information.

3.1. Frequent Verbal Aggression

There appears to be a generally agreed finding in previous work concerned with the study of affect in users of CMC, that expression of negative emotions and evaluations is enhanced in computer-mediated communication as compared to face-to-face communication. As mentioned earlier, some of the newsgroups with the largest readership and heaviest traffic (e.g. talk.politics.mideast and talk.politics.misc) have an extremely confrontational flavor, with argument frequently escalating into personal abuse, obscenities, and vilification. In fact, the Usenet even has a separate newsgroup, alt.flame, which is intended to take irrelevant personal flame-wars away from other newsgroups. Surprisingly, there are some regular posters on alt.flame, who seem to consider it their "home" newsgroup.

The most extreme manifestations of verbal aggression occur in newsgroups of the "alt", "talk", and "soc" categories. To a considerable extent, this is undoubtedly because these newsgroups discuss deeply cherished political, cultural, social or religious beliefs or values. For example, topics such as, say, Nicaragua, Israel, terrorism, racism, sexual orientation, abortion, drug-dealing, Communism, etc. are almost guaranteed to provoke strong feelings regardless of the setting or mode of communication. But even in addition to this factor, Usenet participants do seem to be rather thin-skinned. In other words, "flaming" is a characteristic mode of discourse on the Usenet -- even more so on some newsgroups than on others.

On occasion, excessive verbal aggression on a particular newsgroup has even provoked the spawning of a "nice" version of that newsgroup, for example the formation of soc.singles.nice and alt.sex.nice after a period of vicious flame wars on soc.singles and alt.sex. A few illustrative examples of verbal aggression (from soc.singles, talk.politics.mideast, and talk.politics.misc) are shown below. Obscenities have been replaced by "****" and peoples' names by "xxxx".

"Your posting is totally a waste. Therefore, you are a hypocrite unequalled in your glaring obnoxiousness."

"You moron!! Why don't you take your loathsome rubbish and shove it up your ***."

"It's Bastille Day. perhaps the net.peasants can storm xxxxx's head and free his brain from its cage?"

"Whether xxxxxxx, who likes to pose as a lover of freedom, is a racist of the crudest kind and an apologist for slavery may also be left to the judgement of the reader. Honestly, this shit is worthy of the Nazi's "Race Science.""

"The "I'd love to flay xxxx" article reeks of adolescent revenge fantasies and even includes a castration scene. It's probably the most juvenile article I've seen in quite awhile. Congratulations, xxxxx, that's a difficult contest to win."

"Oh, feel free to send me more hate mail, xxxx. The folks at the office have asked me if you've mailed anything stupid lately. I keep telling them it's only a matter of time."

"C'mon, you little ****. Go get busy being promiscuous. Get AIDS. I'll do my best to make your life miserable, and probably try to put you into electroshock therapy."

"Yes, also remember that [....] I hate xxxx's guts. I will tell YOU something xxxxxxx, with an attitude like yours, it's a wonder anyone hired you at all. I would imagine your situation is that you've worked a the same job for many years now, do absolutely nothing, and don't dare try for a new job because you're unhireable, due to attitude, bad breath, ugliness, and lack of technical skills."

The above examples demonstrate that situations quite frequently arise where emotions erupt into verbal aggression, such as sarcasm, obscenities, and personal abuse.

3.2. Uninhibited Self-disclosure

The second remarkable manifestation of verbal uninhibition is the willingness of many posters, especially on the alt.sex, alt.sex.bondage, and soc.singles newsgroups, to publicize very intimate details about themselves. On occasion this takes the form of a request for help or advice about some personal problem. Such an appeal, when addressed to an impersonal crowd of tens of thousands of people with whom the writer is unacquainted, is strangely reminiscent

of the situation described in Joseph Weizenbaum's book, "Computer Power and Human Reason". Weizenbaum describes his famous computer program, ELIZA, which could simulate a simple conversation by simply echoing the other person's statements with small modifications. To his great surprise, people in conversation with Eliza soon began to confide their personal problems to it, treating it as a counsellor or confidant even though they knew it was simply a computer program with no real understanding of the situation. The parallel between these two kinds of self-disclosure (with a computer program and on a large bulletin board) is in itself an interesting question which needs to be addressed in the future.

Self-disclosure on the alt.sex and alt.sex.bondage newsgroups, however, more commonly takes the form of participants revealing the gory details of their sexual fantasies, preferences, activities, and partners. While many participants do make use of an "Anonymous Posting Service" (voluntarily offered by one of the posters), most use their real identities. It should be noted that alt.sex is not a fringe newsgroup; it has the seventh largest estimated readership (about 49,000) among 442 newsgroups. Without further elaboration, a few typical article titles are listed below:

"Wanted:Mistress Lisa"
"Bondage in Ottawa"
"male submissive fantasy (fairly long)"
"Unleashing my innerself"
"Heidi-2" (the second article in a series about the writer's girlfriend)
"One Night Stand"
"Body Piercings"
"Oral explosion"

3.3. Content Analysis of Articles on Usenet

To quantify the extent of verbal aggression (in the form of manifest face-threatening speech acts, i.e. FTAs) on the Usenet, we conducted a content analysis of articles from selected newsgroups.

Using a cluster sampling method, we selected five newsgroups with the topmost traffic (messages per month) from each of six main newsgroup categories (soc, rec, comp, sci, alt, and talk). The traffic statistics were obtained from *"Usenet Readership report for Aug 89"* (see Appendix A for the names of the 30 newsgroups selected).

We used a total of 600 articles, i.e. 100 articles from each of the 6 main newsgroup categories, for the content analysis. The number of articles to be taken from each of the 5 newsgroups of a given category was determined by the proportion of traffic in that newsgroup, relative to the traffic in the other 4 newsgroups of the same category. This number of the most recently posted articles were selected for analysis. The date of posting for most articles was in October 1989.

The criteria for identifying FTAs (Face Threatening Acts) were primarily adapted from those of Brown and Levinson (1978), who posit that a FTA occurs any time a message source attributes a negative behavior or personality characteristic to the target. They describe different categories of speech actions that threaten another's positive face: (1) evaluating some aspect of the other negatively (criticizing, disapproving, ridiculing, complaining, accusing, insulting), and (2) showing indifference towards the other's feelings (expressing violent emotion, being irreverent, purposefully offending or embarrassing the other). Each separate time that a source attributes a negative behavior or characteristic to the target was coded as a FTA. The unit of analysis was an individual sentence.

Based on the above critera, the 600 postings were content analyzed for FTAs by two blind coders (Intercoder reliability was 0.87). Table 1 shows the number of FTAs found across six newsgroup categories. There are distinct differences in the frequency of occurence of FTAs for these categories. Specifically, the "talk" category had the greatest frequency of FTAs (n=103), far ahead of the next two highest ("alt" and "soc", with n=60 each). On the other hand, the more professionally-oriented categories ("comp" and "sci") had relatively less FTAs (n=27 and n=32, respectively). Even though there is considerable variability between newsgroups and newsgroup categories, the results clearly show that **all** newsgroups and categories contain substantial number of FTAs. In the following section we will consider possible explanations.

4. Possible Explanations for Verbal Uninhibition

Anything that one posts on the bulletin board might conceivably affect one later -- for instance, when seeking a job or a promotion. Nevertheless, many interactants reveal very private information about themselves, or use offensive language towards others, which they would be very unlikely to do in a face-to-face situation. The Usenet is used largely by a subculture of computer, engineering, and scientific professionals, many of them with Masters or Ph.D. degrees. It is very intriguing to observe these highly "respectable" people violently breaching conventional social etiquette. This is indeed a unique communication phenomenon, and its fundamental causes deserve to be explored.

Let us look at the psychological basis for verbal uninhibition from the opposite perspective. That is, if we understand why extreme verbal uninhibition *does not* commonly occur in "ordinary" interactions, we might also be able to explain uninhibited behaviour on the bulletin board. Three important factors which contribute to verbal uninhibition are discussed in the following subsections.

4.1. Reduced Importance of Saving Others' "Face"

Everyone lives in a world of social encounters, involving either face-to-face or mediated contact with other participants. Ordinarily, maintenance of "face" is a condition of interaction. Goffman (1967) noted that both in face-to-face and in mediated encounters, people engage in tacit cooperation in face saving. A person may want to save others' face because he/she feels that his/her coparticipants have a moral right to this protection, or because he/she wants to

Table 1: Face Threatening Acts (FTAs) in Newsgroup Categories

Newsgroup Category	# of FTAs
alt (alternative)	60
comp (computer)	27
rec (recreation)	40
sci (science)	32
soc (societal)	60
talk	103
Total	322

avoid the hostility that may otherwise be directed toward him/her (Goffman, 1967).

In computer-mediated written communication among strangers, however, the need to save others' "face" becomes less compelling. According to Kiesler et al. (1984), communicators via computer have to *imagine* their audience, for at a terminal it almost seems as though the computer itself is the audience. Therefore, encounters are depersonalized, and there exists no "face" to be supported.

In this unique communication context, the level of sympathetic involvement becomes fairly low: people need not be sensitive to others' feelings and messages, nor try to understand them correctly and avoid impoliteness in front of others. Other peoples' "face" is no longer a sacred thing. An opponent's unconcern for politeness may therefore provoke an exchange of increasingly aggressive messages.

4.2. Minimal Sense of Sanction

Closely related to the need for supporting others' face, the avoidance of hostility or sanction merits particular attention as a motivator of verbal inhibition. According to Goffman (1967), politeness is the fulfillment of one's obligation to support the other's "face". When one fails to fulfill this obligation, one is perceived to be inconsiderate, leading the other to look for ways to retaliate. Computer-mediated communication occurs within a much less "punitive" framework. In addition, a bulletin-board conversation can be by-passed, withdrawn from, disbelieved, or conveniently misunderstood without concern for the consequences.

Various constraints operate to prevent excessive verbal aggression in face-to-face or traditional mediated encounters. For example, during a face-to-face encounter, verbal aggression beyond a certain limit will provoke either physical aggression, or intervention by others to prevent further escalation. Both these inhibiting factors -- external intervention, and fear of sanction (physical violence) -- are absent in bulletin board communication. If the other person is rude, the only sanction one can apply is to be rude in return, and this can escalate due to the absence of any inhibitory constraints. There is very little feeling of an immediate social circle in which people act as self-regulating participants.

This applies not only to uninhibited verbal aggression: very personal revelations also abound on the bulletin board. This seems to indicate that social norms and conventions operate through actual (or anticipated) face-to-face contact between people. The perceived zero likelihood of meeting others in person immediately gives people an enormous feeling of safety, leading to unlimited verbal aggression as well as intimate self-disclosure.

4.3. Self-perpetuating Interaction Patterns

People function within social contexts. They have fairly well-developed "scripts" or rules of behavior which are appropriate for various social contexts. For example, people rarely brush their teeth on the street, and women rarely smoke pipes. Similarly, people also have a good understanding of what sort of *communication* behaviour is appropriate in different

situations. Depending on whether one is talking with one's boss, competing colleague, family, or close friend, one may be formal, respectful, alert, insistent, sympathetic, or bad-tempered to varying degrees.

A bulletin board system, on the other hand, is a novel social environment, of whose behavioral norms a new user has no clear understanding. In such a situation, he/she learns by imitating the behaviour of others in the same newsgroup. A new reader of comp.parallel learns to be informal but polite, on talk.politics.mideast he/she finds that vicious personal attacks are commonplace, and on alt.sex he/she learns that forthright self-disclosure is considered more respectable than "lurking". Thus, newsgroups, including those with high levels of verbal aggression or self-disclosure, perpetuate their characteristic styles by passing them on to new participants.

To summarize, we have argued that the fundamental causes for verbal uninhibition in CMC are the participants' loss of concern for others' "face", a low sense of sanction, and the self-perpetuation of newsgroup norms.

5. Implications and Conclusion

With the advent of computer networks and CMC systems, geographically remote people looking for information, or just conversation, can communicate with others having similar interests (Tur[illegible], 1978). Emergent communication patterns among bulletin board users are an important research issue. In an effort to explore this issue, we examined Usenet in considerable detail. The most unique and striking communication phenomena on Usenet are rampant verbal aggression and uninhibited self-disclosure, both of which can be subsumed into the category of "verbal uninhibition".

Three factors were identified as possible explanations for this novel communication phenomenon: reduced inclination to protect others' "face", minimal sense of sanction, and perpetuation of the existing (uninhibited) interaction patterns. The first two factors are interrelated, and are caused by the unique channel characteristics of computer mediation. Face-to-face interpersonal communication provides rich nonverbal cues and immediate feedback. By contrast, computer-mediated interaction depersonalizes other participants to a certain extent. Their geographical remoteness further lowers the perceived likelihood of unpleasant consequences for extremely uninhibited verbal behavior.

One might naively assume that a computer bulletin board would be the ideal forum for the undistracted discussion of ideas. All "irrelevant" factors like the participants' status, sex, race, age, appearance, facial expressions, voice, and physical gestures would be removed, and two disembodied "intelligences" could carry on a dispassionate, logical, issue-centered debate, finally arriving at the most reasonable conclusion. Unfortunately, this is almost the exact opposite of the way arguments are often conducted on Usenet.

For example, Rice and Love (1987) speculate that CMC may have clear advantages over the socioemotionally rich content of face-to-face communication. Hiltz and Turoff (1978) also

contend that CMC is better thought out, better organized, and richer than natural conversation, and that experienced users develop an ability to express missing nonverbal cues in written form.

Grunig and Hunt (1984) mention the surprise with which scholars realized that peoples' attitudes (words) do not necessarily predict their behavior (deeds). Bulletin board communication appears to offer one more such counter-intuitive discovery: that the removal of all "messy" human factors irrelevant to a discussion may in fact lead to an overall *deterioration* in the quality of discussion, by facilitating a high level of verbal aggression.

The communication phenomena described so far pose interesting topics for future empirical study. For example, just how prevalent and how severe is verbal uninhibition across different forms of CMC (i.e., electronic mail, computer-mediated conferencing, bulletin boards, and real-time interaction), and across different newsgroups on a bulletin board? Detailed interviews with users may also provide us with a sound basis for understanding the psychology of computer-mediated interaction. The validity of the factors proposed in this paper to explain verbal uninhibition can be determined by intensive interviews and formal testing.

Computer bulletin board systems are new to almost everyone, including media professionals and the public in general, as well as social scientists from various fields. The arrival of this new form of communication shows us that communication does not simply mean "sending messages", nor, least of all, "bringing people together" (Cherry, 1974). Human language may sometimes bring us together in agreement, but it can equally well keep us apart. If we accept the definition of society as "people in communication", the use of bulletin boards as a communication medium implies some degree of change in people's social structures. The new communication media are likely to play an increasingly important role in future, but their social implications have not yet been considered seriously. Social scientists as well as media professionals should study the potential benefits and drawbacks of using these media, and explore ways to use them creatively and constructively.

References

Brown, P., & Levinson, S. (1978). Universals in language usage: Politeness phenomena. In E.N. Goody (Ed.), *Questions and politeness: Strategies in social interaction*. Cambridge: Cambridge Univ. Press.

Cherry, Colin (1974). Some values of communication technology for the future of world order. in A. Silverstein (ed.) *Human communication: Theoretical explorations*. (pp.145-163) Lawrence Erlbaum Associates.

Goffman, Irving (1967). *Interaction Ritual: Essays in face-to- face behavior*. Aldine Publishing Company.

Grunig, James E., and Hunt, Todd (1984). *Managing Public Relations*. New York: Holt, Rinehart, and Winstone.

Hiltz, S. R., & Turoff, M. (1978). *The network nation: Human communication via computer*. Reading, MA: Addison-Wesley.

Kiesler, S., Siegel, J., and McGuire, T. (1984). Social psychological aspects of computer-mediated communication. *American Psychologist, 39* (10): 1123-1134.

Kiesler, S., Zubrow, D., Moses, A, & Geller, V. (1985). Affect in computer-mediated communication: An experiment in synchronous terminal-to-terminal discussion. *Human Computer Interaction, 1* (1): 77-104.

Komsky, S. (1988). *A canonical analysis of acceptance of electronic mail as a medium of communication in a university*. Paper presented at the International Communication Association, New Orleans, LA, May.

Lancaster, F. W. (1978). *Toward paperless information systems*. New York: Academic Press.

Linstone, H. A., and Turoff, M.(1975). *The Delphi method: Techniques and applications*. Reading, MA: Addison-Wesley.

Martino, J.P. (1972). *Technological forecasting for decisionmaking*. New York: American Elsevier.

Sproull, L, Kiesler, S., and Zubrow, D. (1984). Encountering an alien culture. *Journal of Social Issues, 40*, 31-48.

Rice, R., & Love G. (1987). Electronic Emotion: Socioemotional content in a computer-mediated communication network. *Communication Research, 14* (1): 85-108.

Ross, Alf (1968). *Directives and Norms*. London: Routledge & K. Paul.

Turoff, M. (1978). The EIES experiment: Electronic information exchange system. *Bulletin of the American Society for Information Science, 4* (5), 9-11.

Weizenbaum, Joseph (1976). *Computer power and human reason: From judgement and to calculation*. San Franscisco: W.H. Freeman.

USENET Readership report for Aug 89, message id <178@apostrophe.dec.com> of newsgroup "news.lists", 1st. Sept., 1989

Appendix A: Newsgroups selected for Content Analysis

Newsgroup Category	Newsgroup	# articles selected
soc	soc.singles	34
	soc.culture.china	25
	soc.motss	18
	soc.men	12
	soc.culture.indian	11
		100
comp	comp.sys.amiga	25
	comp.sys.mac	24
	comp.sys.ibm.pc	20
	comp.sys.apple	16
	comp.lang.c	15
		100
rec	rec.sport.baseball	23
	rec.music.misc	21
	rec.arts.movies	20
	rec.autos	19
	rec.arts.sf-lovers	17
		100
talk	talk.politics.misc	28
	talk.bizarre	24
	talk.abortion	17
	talk.politics.mideast	16
	talk.religion.misc	15
		100
alt	alt.sex	30
	alt.aquaria	20
	alt.sca	18
	alt.drugs	17
	alt.cosuard	15
		100
sci	sci.space	32
	sci.med	20
	sci.physics	17
	sci.environment	16
	sci.electronics	15
		100